



Elite Ecology

Passionate about Ecology

Dower House, Harlington



Biodiversity Net Gain Report

November 2025



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Biodiversity Net Gain Report

0. Executive Summary

This report has been prepared at the request of Mr Michael Edwards (Komfort Services). It relates to the proposed re-development works at Dower House, High Street, Harlington, Greater London, UB3 5DH (OS Grid Reference: TQ 08846 77323). For this report, a biodiversity impact assessment calculation has been made. This document should be read in conjunction with the completed Excel spreadsheet.

Under the current proposals, the plans are to rebuild the listed building on site and create seventeen residential dwellings with new access. It should be noted that this report is partly retrospective as areas of the site have already been cleared. Overall, this will result in both the permanent and temporary loss and/or alteration of some of the habitats located on the proposed re-development site. Please refer to **Appendix A** for the site plans.

The site walkover revealed multiple habitats on site. The Baseline Habitat Plan, habitat codes and target notes for the site are located within **Appendix C**. The following habitats were recorded on site and in the surrounding area (in primary habitat code alphabetical order):

- **u1b – Developed Land; Sealed Surface**
- **u1b5 – Buildings**
- **u1e 612 – Built Linear Features**
- **w1g 206 – Other Woodland; Broadleaved**

Habitat Mitigation Score

Biodiversity Unit Type	Baseline Units		Post-Development Units Without Recommendations			Post-Development Units With Recommendations			
	On-Site	Off-Site	On-Site	Off-Site	% Net Gain	On-site	Off-site	Statutory Biodiversity Credits	% Net Gain
Area Habitats	8.92	N/A	0.58	N/A	-93.47%	0.77	N/A	N/A	-91.38%
Linear Habitats	0.00	N/A	0.24	N/A	N/A	0.24	N/A	N/A	N/A
Linear Habitat – Rivers and Streams	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

The score, with enhancements, resulted in a **8.15** unit loss (**-91.38%**) in area habitat mitigation, a **+0.24** unit gain (**N/A**) in linear habitat mitigation, and a **0.00** unit gain (**+0.00%**) in watercourse habitat mitigation. As the project has not met the DEFRA 10% increase in net gain for biodiversity, the client will be required to either find additional land for offsetting, make changes to the layout or purchase or purchase statutory biodiversity credits through Natural England. Alternatively, the client may wish to consult a private third party habitat unit brokers for prices for biodiversity units sold in the off-site private market.

Habitat Creation and Management

Habitat creation and management details can be found within **Section 6**. Following the management plan will ensure that habitats meet their target conditions. Habitats that will be implemented are as follows:

- Scattered Trees.
- Wildflower Planting.

Timetables for post-monitoring can be found in **Section 7**.

Species Specific Enhancements

A number of species-specific enhancements can be found in **Section 6**.

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1. Introduction

1.1 Report Rationale

This report has been prepared at the request of Mr Michael Edwards (Komfort Services). It relates to the proposed re-development works at Dower House, High Street, Harlington, Greater London, UB3 5DH (OS Grid Reference: TQ 08846 77323). For this report, a biodiversity impact assessment calculation has been made. This document should be read in conjunction with the completed Excel spreadsheet.

1.2 Site Description

The site, which measures approximately 0.627ha, is located within in an urban setting in the village of Harlington, found within the London Borough of Hillingdon.

The site contains a number of habitats. These include buildings, fence, hard standing ground, mixed scrub, scattered trees, tall forbs, and woodland. The habitats on site could have the potential to support a number of protected species. Photographs of the site are found within **Appendix E**.

Within the wider landscape, further habitats are present. These come in the form of amenity grassland, arable land, buildings (and their associated gardens/yards), hard standing ground, hedgerows, scattered trees, standing water, and woodland. The habitats that surround the site also have the potential to be utilized by a variety of protected species.

Figure 1: An aerial map showing the approximate boundary of the site at Dower House, Harlington (as shown by the red outline).



Figure 2: An aerial map showing the site at Dower House, Harlington (as shown by the yellow star) in relation to some of the local landscape.

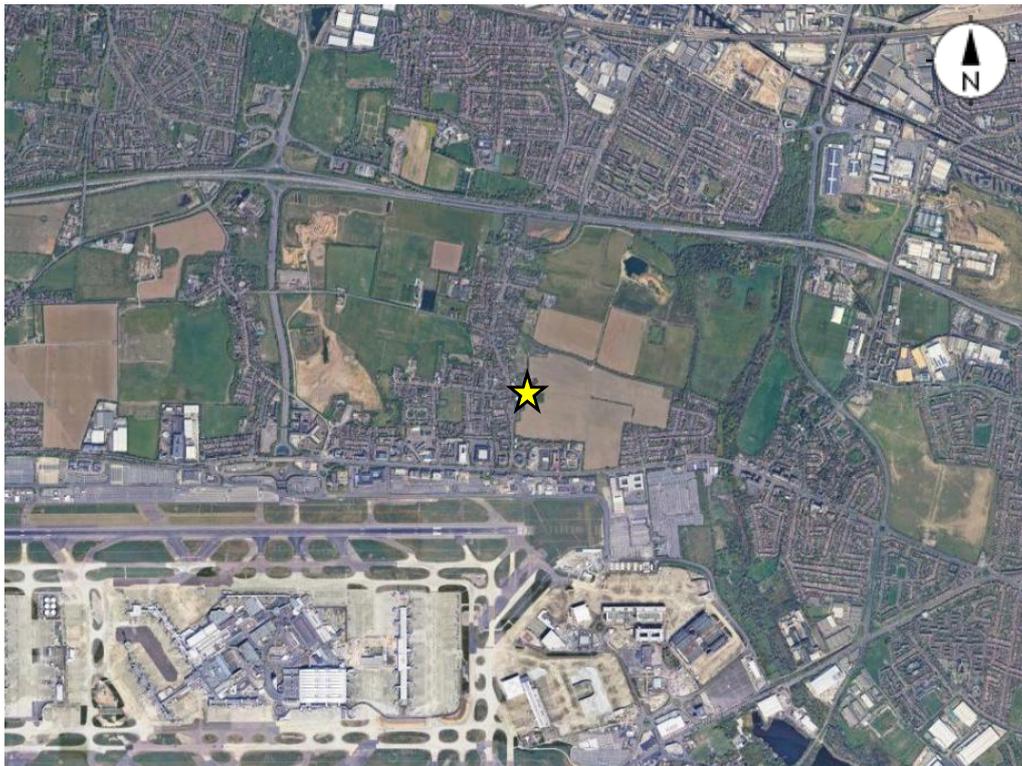
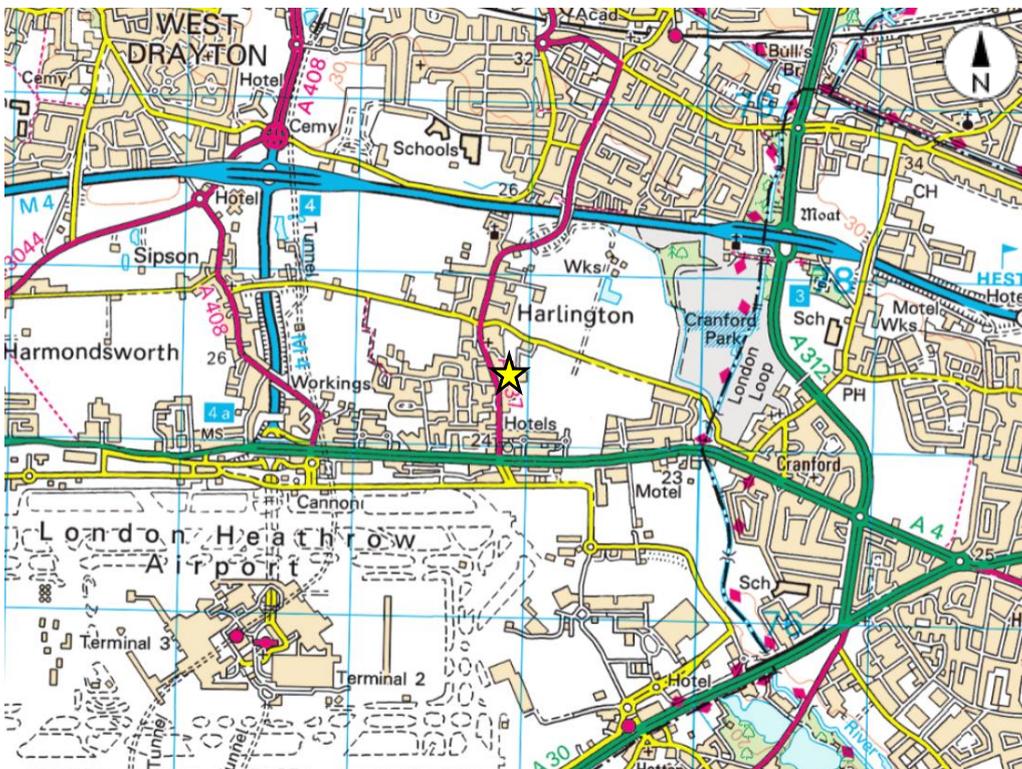


Figure 3: An OS map obtained from Bing showing the site at Dower House, Harlington (as shown by the yellow star).



1.3 **Proposals**

Under the current proposals, the plans are to rebuild the listed building on site and create seventeen residential dwellings with new access. Overall, this will result in both the permanent and temporary loss and/or alteration of some of the habitats located on the proposed re-development site. Please refer to **Appendix A** for the site plans.

1.4 **Scope of Report**

This report aims to:

- Establish the total number of baseline and lost habitat, hedgerow, and river units at the site of the proposed scheme.
- Establish the total number habitat, hedgerow, and river units that are to be created, retained and/or enhanced under landscape and ecological mitigation proposals at the proposed works site.
- Determine whether the proposed scheme will result in a net loss, no net loss, or a net gain for biodiversity.
- Make further recommendations to gain the required 10% minimum net gain for biodiversity.

1.5 **Biodiversity Net Gain Relevant Policies**

The appraisal has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England. These are:

- UK Biodiversity Action Plan (UKBAP).
- The Natural Environment and Rural Communities (NERC) Act 2006.
- The UK Post-2010 Biodiversity Framework (2011-2020).
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services.
- The National Planning Policy Framework (NPPF) 2024.
- Environmental Act 2021.
- Local policy.

A full explanation of these policies can be found within **Appendix F**.

2. Methodology

Personnel

Field surveys have been undertaken by licensed ecologist/s, members of the Chartered Institute of Ecology & Environmental Management (CIEEM) and members of Elite Ecology staff. A walkover of the site was undertaken on the 3rd of November 2025 by **Mr. Peter Royall**: BSc (Hons), Assistant Ecologist and **Miss. Racheal Nowakowski**: MSc, Assistant Ecologist.

The Biodiversity Net Gain Assessment has been carried out by **Miss. Alisa Valtonen**: MSc, Assistant Ecologist, in line with CIEEM Guidelines on Good practice principles for development (2016), CIEEM A Practical Guide (2019) and BS 8683:2021 - Process for designing and implementing biodiversity net gain. This net gain report and assessment has been reviewed by **Mr. Richard Millington**: BSc (Hons), ACIEEM, CERPIT, MRSB, MArborA, Principal Ecologist.

Survey of Baseline Habitats and Condition

Habitat typing and condition assessments are undertaken during a Preliminary Ecological Appraisals (PEA) or similar studies. The baseline also considers historic records for the site and local area via a desktop study (satellite imagery, previous ecological reports), as well as additional surveys to assess the presence/absence of species in certain situations. Conditions of habitats and hedgerows are assessed using the scoring systems provided in the Statutory Biodiversity Metric Condition Assessment Sheet.

Calculations of Baseline Habitats

Using Geographic Information Software (GIS), baseline habitats are measured in hectares (ha) using vector layer polygons. These measurements are then input into the DEFRA Statutory Biodiversity Metric Calculation Tool. Habitat condition and connectivity are then input into the calculator. The area of habitat retained is then entered into the calculation to give a final sum of baseline units and lost unit.

Each habitat has a base score of 1, this is then multiplied by the size of the habitat (ha). The habitat is then multiplied by its distinctiveness:

- Very low – 0
- Low – 2
- Medium – 4
- High – 6

The next multiplier is based on the condition of the habitat:

- N/A-other/agricultural – 0
- Poor – 1
- Fairly poor – 1.5
- Moderate – 2
- Fairly good – 2.5
- Good – 3

Calculations of Post-development Habitats

The calculation is informed by planning design, landscape plans, and proposed ecological mitigation. Plans are georeferenced into GIS and are similarly measured in hectares (ha) using vector layer polygons. These measurements are then converted into input into the DEFRA Statutory Biodiversity Metric Calculation Tool. A target condition will be assigned to each new habitat following the same scores as above. The calculator will generate a proposed time to hit this target condition and difficulty score.

The Relevant Date

Guidance for the relevant date can be found on the [Guidance Biodiversity net gain \(Gov.UK\)](#).

For the Biodiversity Plan, Paragraph 6 of Schedule 7A of the Town and Country Planning Act 1990 makes provision relating to unauthorised degradation takes place, and Paragraph 6A of the 1990 Act makes provision relating to degradation taking place which is in accordance with a planning permission:

- *Where unauthorised degradation of the onsite habitat has taken place on the land between **30 January 2020** and the date of [relevant date](#), the biodiversity pre-development value of the onsite habitat should be calculated as the biodiversity value of the habitat on the date immediately before the carrying out of these degradation activities. The relevant date should therefore be set as a date immediately before these activities. Unauthorised degradation of onsite habitat is any degradation which is not in accordance with a previous planning permission.*
- *If activities to implement or in connection with a planning permission are carried out after **25 August 2023** that lower the biodiversity value of the onsite habitat, the pre-development biodiversity value of the onsite habitat is taken to be the biodiversity value immediately before the carrying out of the activities. The relevant date should therefore be set as a date immediately before these activities.*

If there has been degradation and there is insufficient evidence about the biodiversity value of the onsite habitat immediately before the degradation, the pre-development biodiversity value of the onsite habitat must be taken to be the highest biodiversity value of the habitat which is reasonably supported by any available evidence relating to it. This requirement must be applied to the calculation of pre-development biodiversity value in the metric tool, and the Biodiversity Gain Plan template asks for information regarding whether there has been prior habitat degradation.

As no planning application has been submitted in relation to the site as of the date of this report, the relevant date of 30th January 2020 has been chosen.

3. Baseline Conditions

3.1 Habitats

The site walkover, completed on the 3rd of November 2025, revealed multiple habitats on site. The full condition assessment of the habitats found on site can be found within **Appendix C**. The baseline habitat map, habitat codes and target notes for the site are located within **Appendix C**. The following habitats were recorded on site (in habitat code order).

It should be noted that this report is partly retrospective as a part of the site has already been cleared. As this was done without permission, the habitats on site, excluding the building and retained woodland, have been classed as felled woodland in the baseline.

On Site:

UKHAB	Metric	Condition	Justification
u1b – Developed Land; Sealed Surface	Developed Land; Sealed Surface	N/A – Other	Automatically calculated by the statutory metric.
u1b5 – Buildings	Developed Land; Sealed Surface	N/A – Other	Automatically calculated by the statutory metric.
u1e 612 – Built Linear Features	N/A	N/A	Metric limitation.
w1g – Other Broadleaved Woodland	Other Woodland; Broadleaved	Moderate	Scores a total of 27 of 39 points across the various conditioning criteria (see Appendix B).
w1g 206 – Felled Woodland	Felled Woodland	Good	Habitat and condition chosen due to site clearance.

3.2 Strategic Significance

The following table shows the strategic significance of the site. This is compared against freely available sources such as the Multi Agency Geographic Information for the Countryside (MAGIC) and local policy maps.

Habitats	Strategic Significance	Justification
All Habitats	Area/compensation not in local strategy/no local strategy.	Area not identified in the local plan/strategy for biodiversity, nor is it deemed to be in a particularly ecologically valuable area.

3.3 Species

No preliminary ecological appraisal was conducted during the most recent site visit on the 3rd of November 2025. However, a preliminary ecological appraisal was undertaken by Elite Ecology in March 2023, and it revealed that the habitats that have been outlined for the proposed development area do contain protected species potential. The following assessment has also taken into account the adjacent habitats and connectivity to the wider landscape for all protected and rare species. Please refer to the report entitled “Dower House, Harlington – Elite Ecology PEA Report (March 2023)”.

Species	Further Works	Further Surveys Done	Summary of Results
Amphibians	None	N/A	The survey uncovered terrestrial habitats suitable to great crested newts (<i>Triturus cristatus</i>), such as tall ruderal and woodland. However, there are no ponds or ditches present on site and no ponds are known to be present within 500m of the survey site. No amphibians, including great crested newts, were identified within the ecological data.
Badgers	Surveys	No	No signs of setts or evidence on site, activity patterns of this species can change over a short time. It is therefore recommended that an update badger survey is undertaken.
Bats	Surveys	Yes	B1 was found to be in use as a day roost for common pipistrelle (<i>Pipistrellus pipistrellus</i>) bats. Please refer to the document entitled 'Dower House, Harlington – Bat Activity Report – Elite Ecology (August 2023)' for further details.
Birds	Precautionary Measures	N/A	Nesting potential on site. Enhancements will be recommended in this document.
Hedgehogs	Precautionary Measures	N/A	Enhancements will be recommended in this document.
Reptiles	None	N/A	There are habitats on site that would support reptiles such as woodland and scrub. However, the habitats off site are highly fragmented meaning that it is unlikely that reptiles will use the site. Due to this, no further reptile surveys are required

4. Baseline Calculation and Proposal Impact

4.1 Existing Habitats

The table below outlines the existing site status based on the most recent field survey.

Area Habitats

Habitat Description	Habitat Area (ha)	Distinctiveness	Score	Condition	Score	Baseline Habitat Units	Habitats Retention (ha)			Habitat Units Lost
							Retained	Enhanced	Lost	
Other Woodland; Broadleaved	0.17	Medium	4	Moderate	2	1.36	0.00	0.00	0.17	1.36
Felled Woodland	0.42	High	6	Good	3	7.56	0.00	0.00	0.42	7.56
Developed Land; Sealed Surface (Buildings)	0.03	V.Low	0	N/A - Other	0	0.00	0.03	0.00	0.00	0.00
Developed Land; Sealed Surface (Hard Standing)	0.01	V.Low	0	N/A - Other	0	0.00	0.01	0.00	0.00	0.00
TOTALS:	0.63*					8.92	0.04	0.00	0.59	8.92
*Areas excluding individual trees.										

Based on the above information, the on-site habitat biodiversity value is calculated at **8.92** habitat units, with **8.92** units lost during the development. Therefore, **0.00** habitat units will remain.

Linear Habitats

No linear habitats were present in the baseline.

Watercourse Habitats

No watercourses were present in the baseline.

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4.2 Proposed HabitatsArea Habitats

Habitat Description	Habitat Area (ha)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Developed Land; Sealed Surface (Hard Standing)	0.20	V.Low	0	N/A - Other	0	0	1.000	Low	1	0.00
Developed Land; Sealed Surface (Buildings)	0.12	V.Low	0	N/A - Other	0	0	1.000	Low	1	0.00
Vegetated Garden	0.27	Low	2	Condition Assessment N/A	1	1	0.965	Low	1	0.52
Urban Trees	0.02	Medium	4	Moderate	2	27	0.382	Low	1	0.06
TOTALS:	0.59									0.58

The above habitats, valued at **0.58** habitat units, combined with the remaining valued at **0.00** units, a habitat biodiversity value score of **0.58** habitat units is given by the metric calculation.

Linear Habitats

Hedge Description	Hedge Length (km)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Hedge Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Non-native and ornamental hedgerow	0.25	V.Low	1	Poor	1	1	0.965	Low	1	0.24
TOTALS:	0.25									0.24

The above linear habitats, valued at **0.24** hedgerow units, combined with the remaining valued at **0.00** units, a hedgerow biodiversity value score of **0.24** hedgerow units is given by the metric calculation.

Watercourse Habitats

No watercourse habitats have been proposed as part of this project.

4.3 Total Net Unit Change

The net unit change for the area habitats on site is calculated at **-8.34**, which correlates to a loss of **-93.47%** in biodiversity units.

The net unit change for the linear habitats on site is calculated at **+0.24**, a gain which cannot be expressed in percentage terms compared to a baseline of **0.00** units.

The net unit change for the water course habitats on site is calculated at **+0.00**, which correlates to neither a net gain or loss in biodiversity units.

4.4 Trading Rules

With the above proposed habitats, the trading rules are **not** satisfied. The table below breaks down the factors for passing or failing the trading rules:

Area Habitats:

Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required	No	7.56 units of this distinctiveness were lost under the current proposals. The proposals only provide habitats of lower distinctiveness.
Medium	Same broad habitat or a higher distinctiveness habitat required (\geq)	No	1.36 units were lost under the current proposals. The proposals only provide 0.06 units of this distinctiveness, leaving a deficit of 1.30 units.
Low	Same distinctiveness or better habitat required (\geq)	Yes	No habitats of this distinctiveness were identified on site.

Linear Habitats:

Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same broad habitat or a higher distinctiveness habitat required (\geq)	Yes	No habitats of this distinctiveness were identified on site.
Low	Same distinctiveness or better habitat required (\geq)	Yes	No habitats of this distinctiveness were identified on site.
Very Low	Same distinctiveness or better habitat required (\geq)	Yes	0.24 units of this distinctiveness were gained under the current proposals.

Watercourse Habitats:

Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Low	Same distinctiveness or better habitat required (\geq)	Yes	No habitats of this distinctiveness were identified on site.

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5. Recommendations

5.1 Habitats

The initial score, without enhancements, resulted in a **8.34** loss in habitat units (-**93.47%**) and **0.24 (N/A)** gain in hedgerow units.

The development therefore does not meet the DEFRA recommended 10% minimum net gain in biodiversity units. The following habitats are to be implemented to increase the net gain of the development. It should be noted that these habitats are insufficient to achieve the 10% minimum net gain, however, under the current proposals, there remains no extraneous space for additional habitats to be recommended for offsetting.

Recommended Habitats

Habitat Description	Habitat Area (ha)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Developed Land; Sealed Surface (Hard Standing)	0.20	V.Low	0	N/A - Other	0	0	1.000	Low	1	0.00
Developed Land; Sealed Surface (Buildings)	0.12	V.Low	0	N/A - Other	0	0	1.000	Low	1	0.00
Vegetated Garden	0.25	Low	2	Condition Assessment N/A	1	1	0.965	Low	1	0.48
Urban Trees	0.05	Medium	4	Moderate	2	27	0.382	Low	1	0.15
Other Neutral Grassland	0.02	Medium	4	Moderate	2	5	0.837	Low	1	0.13
TOTALS:	0.59*									0.77
*Areas excluding urban trees										

The above habitats, valued at **0.77** habitat units, combined with the remaining valued at **0.00** units from the baseline habitat retention, mean a habitat biodiversity value score of **0.77** habitat units is given by the metric calculation.

Recommended Hedgerows

No hedgerows have been recommended.

Recommended Watercourses

No watercourses have been recommended.

5.2 Habitat Mitigation Score

If the above habitats are implemented on site:

The net unit change for the habitats on site is calculated at **-8.15**, which correlates to a loss of **91.38%** in habitat biodiversity.

The net unit change for the hedgerows site is calculated at **+0.24**, a percentage increase which cannot be calculated against a baseline of **0.00** units.

The net unit change for the watercourses is calculated at **+0.00**, which correlates to neither a net gain nor a net loss in watercourse biodiversity.

5.3 Trading Rules

With the above proposed habitats, the trading rules are **not** satisfied. The table below breaks down the factors for passing and failing trading rules:

Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required (=)	No	7.56 units of high distinctiveness were lost under the current proposals. No habitats of this distinctiveness have been recommended.
Medium	Same broad habitat or a higher distinctiveness habitat required (\geq)	No	0.29 units of medium distinctiveness have been recommended, which leaves a deficit of 1.07 units.
Low	Same distinctiveness or better habitat required (\geq)	Yes	0.48 units of low distinctiveness have been recommended; this leaves a surplus of 0.48 units.

Linear Habitats:

Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same broad habitat or a higher distinctiveness habitat required (\geq)	Yes	No habitats of this distinctiveness were identified on site.
Low	Same distinctiveness or better habitat required (\geq)	Yes	0.20 units of low distinctiveness have been recommended. After offsetting, this leaves a surplus of 0.08 units.
Very Low	Same distinctiveness or better habitat required (\geq)	Yes	No units of this distinctiveness were lost under the current proposals.

Watercourse Habitats:

Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same habitat required	Yes	No units of this distinctiveness were lost under the current proposals.
Low	Same distinctiveness or better habitat required (\geq)	Yes	No habitats of this distinctiveness were identified on site.

5.4 Summary

The score, with enhancements, resulted in a **8.15** unit loss (**-91.38%**) in habitat mitigation, a **0.24** unit gain (**N/A**) in linear habitat mitigation, and neither a gain nor a loss in watercourse habitat mitigation. As such, the project has not met the DEFRA recommended 10% net gain in biodiversity units. In addition, the trading rules for area habitats have not been satisfied. Under the current proposals, there remains no extraneous space for additional habitats to be recommended for offsetting, as the remaining land is proposed to become residential dwellings with private gardens. These cannot be used to improve biodiversity as management and monitoring cannot be enforced.

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In order to achieve the DEFRA recommended minimum 10% net gain in biodiversity units, the development has the following options:

Option 1: Consult the private market to purchase off-site biodiversity units. This should ideally be within the same LPA area or National Character Area to maximise the points gained. A combination of option 1 and option 2 can be used.

Option 2: Acquire additional land off-site to use for biodiversity offsetting and habitat creation. This should ideally be within the same LPA area or National Character Area to maximise the points gained. These sites may be required to be registered as a biodiversity gain site, and habitat creation/enhancements and management must be secured for at least thirty years via a suitable legal agreement such as a planning obligation (section 106) with an LPA or a conservation covenant agreement with a responsible body.

Option 3: As a last resort, the client may wish to purchase statutory biodiversity credits from the government. Please note that the prices of these statutory credits are kept intentionally uncompetitive. The client will need to provide evidence that the other above options have been explored in order to purchase these credits.

A breakdown of the units required can be found below:

Unit Type	Target	Baseline Units	Total Units Required on Site Post Development	Units Deficit
Area Habitats	10.00%	8.92	9.81	9.04
Hedgerow	10.00%	0.00	0.24	N/A (a net gain in linear habitats has already been achieved).
Rivers	N/A	N/A	N/A	N/A

As the project has not met the DEFRA 10% increase in net gain for biodiversity, the client will be required to either find additional land for offsetting, make changes to the layout or purchase statutory biodiversity credits through Natural England. Alternatively, the client may wish to consult a private third party habitat unit brokers for prices for biodiversity units sold in the off-site private market.

Once an off-setting method has been agreed this document **MUST** be updated to provide evidence of a gain in biodiversity.

6. Habitat Creation and Management

6.1 Soil Preparation

SOILS: Subgrade/subsoil to be prepared in accordance with BS 8601:2013 and BS 4428:1989 and scarified or ripped to 300mm depth (excluding root protection areas of retained trees refer to Tree Protection Plan) prior to spreading topsoil to alleviate compaction and promote drainage. Imported and as saved topsoil to be in accordance with BS 3882: 2015 'Multipurpose Grade' with minimum soil organic matter contents 1% greater than the minimal value (or as approved). Imported topsoil (and 'as saved' if requested) is to be laboratory tested to BS 3882:2015 and ameliorated as required to meet the required characteristics as detailed within Table 1 of BS 3882:2015 specification.

Wildflower and private lawn areas to be unimproved topsoil or low fertility topsoil to BS 3882:2015. Grass areas to be a minimum depth of 150mm, shrub beds 450mm depth, and forestry/transplants 300mm depth. Any weed/grass growth is to be sprayed out with appropriate herbicide at least ten days prior to cultivation. All areas are to be cultivated to a minimum depth of 150mm removing weeds and rubbish/stones greater than 20mm in size. Incorporate proprietary non peat compost to BSI PAS 100 to 50mm depth evenly worked into soil during cultivation.

6.2 Habitats

6.2.1 Scattered Trees

Nine trees are to be planted in the communal garden and around the driveway. These are to consist of a mix of the following:

Small sized trees: Downy birch (*Betula pubescens*), holly (*Ilex aquifolium*), hornbeam (*Carpinus betulus*), rowan (*Sorbus aucuparia*), silver birch (*Betula pendula*), wild cherry (*Prunus avium*), and wild service tree (*Sorbus torminalis*).

These trees are to be planted accordance with BS 3936, BS8545 and The National Plant Specification – 'Rootballed Trees'.

6.2.2 Wildflower Meadow

A wildflower meadow should form part of the site to maximise biodiversity. This habitat is to be incorporated into the communal garden on site. A variety of wildflower mixes can be found on the [Meadowmania](#) or [Wildflower Turf](#) webpages. It is recommended that [EM34 Diverse Meadow Mixture](#) or similar is used. A list of recommended species will be provided in **Section 7**.

This must be connected to other habitat features to ensure beneficial invertebrates, such as bees and butterflies, can find and utilise this habitat. This is due to some species not crossing open areas, so connectivity with linear habitat features is critical. Further information on creating wildflower meadows can be found [here](#).

These areas should be mown once a year:

- **Autumn cut** - cut between the end of August and late November.

Management of the grassland should avoid mowing of the entire space, to allow patches of taller or rough grassland patches and flowering to take place.

6.2.3 **Control of Aggressive Weeds**

Any weeds which grow on site and are thought to be aggressive and pose a threat to the success of the planted trees should be eradicated as soon as possible. These will be identified within a plant identification survey undertaken twice yearly; one in March and one in July. It will be necessary to remove all weeds found on site by hand during the first three years of the project, until the new trees are mature enough to survive. Any invasive species that appear on site will require eradication as soon as possible. The identification of any invasive species will take place within a plant identification survey undertaken twice yearly; one in March and one in July.

6.3 **Species Specific Enhancements**

6.3.1 **Bats**

It is recommended that the development site should incorporate the following:

- Three Integrated Eco Bat Boxes.

Including these boxes will providing further roosting opportunities. These should avoid any artificial lighting, whilst being sighted facing east, south-east, south, south-west, and/or west. The wooden poles are recommended to be at least partially shaded by some of the new trees. Boxes can be purchased by emailing admin@eliteecology.co.uk.

Artificial lighting **must avoid** linear features. If it is necessary to include artificial lighting in areas overlooking both hedgerows and trees, then this must include sensors to be triggered by larger bodies only. An artificial lighting plan should be drawn up to illustrate the spill of light. This is to include the proposed security lighting on the residential dwellings as well as all street lighting. This document should then be approved by a licenced bat ecologist. More information on bats and artificial lighting can be found within **Appendix G**.

6.3.2 **Birds**

The development site should be enhanced for birds by installing a variety of bird boxes on site. The development should incorporate the following:

- Three Apex Bird Boxes.

Boxes can be purchased by emailing admin@eliteecology.co.uk.

The boxes should be positioned two-to-four metres high on a wall. They must be placed between northern and eastern elevations, thus avoiding strong sunlight and the wettest winds.

The entrance of the box must be kept clear of obstructions, such as branches and vegetation. All bird enhancements must be situated in a way that prevents access to predators, such as cats.

6.3.3 Hedgehogs (*Erinaceus europaeus*)

The site is to be enhanced for the local hedgehog population by two Eco Hedgehog Nest Boxes being installed at the site. This will create more opportunities for hedgehogs within the local landscape. This can be purchased by emailing admin@eliteecology.co.uk.

It is also recommended that small gaps are left within any boundary fencing (if used) to enable the specimens to continue to commute through the area (an example can be found within **Figure 4**). This will ensure that the local hedgehog populations do not become fragmented within the local landscape.

Figure 4: An image of an example hedgehog tunnel (obtained from RSPB).



6.3.4 Invertebrates

At present, the site is not considered to be of any importance to local invertebrate populations. The site is to incorporate least one Bumblebee Box into the scheme, along with one Bug Hotel. These can be purchased by emailing admin@eliteecology.co.uk. This will enhance the site for the local invertebrate populations, which will thus attract species further up in the trophic level.

Bumblebee boxes should be made from a wooden frame with nesting tubes within. Plastic should not be used. The frame should be at least height 15cm x width 15cm x length 15cm (slight variation on dimensions is allowed) and must have a solid back. The nesting tubes should be a minimum of 15cm long and should have an average diameter of 2-10mm. The bug hotel should follow similar dimensions and materials used; however additional elements can be included such as drilled pieces of timber where the holes are at least 10cm deep. Bug hotels including items such as pinecones, glued snail shells, wood shavings or clear plastic tubes should be strictly avoided (**Figure 5**).

Smaller, more frequent bumblebee boxes/insect hotels are preferred to larger insect boxes as the larger varieties are susceptible to spreading diseases and parasites and can actually cause more harm than good.

When situating the box, it should be fixed securely to a sturdy surface at least 1m off of the ground, ideally on an easter-southern elevation so that the box is in full sunlight. No vegetation should be in front the box as it would obscure the entrances to the tunnels. The box would benefit from being placed close to plants rich in a pollen source throughout the year.

Figure 5: Image showing the difference between a good (right) and a bad (left) insect hotel, taken from the Entomologist Lounge website.



7 Timing, Phasing, and Duration of Conservation Measures

7.1 Construction Phase

Creation	Timing	Species
Tree Planting	Plant between October and April.	<p>Individual:</p> <p>Nine small-sized trees: Downy birch (<i>Betula pubescens</i>), holly (<i>Ilex aquifolium</i>), hornbeam (<i>Carpinus betulus</i>), rowan (<i>Sorbus aucuparia</i>), silver birch (<i>Betula pendula</i>), wild cherry (<i>Prunus avium</i>), and wild service tree (<i>Sorbus torminalis</i>).</p>
Wildflower Planting	<p>Wildflower Meadow mix</p> <p>May to September</p>	<p>Wildflowers (Total 44.5%): Birdsfoot trefoil (<i>Lotus corniculatus</i>) 2.0%, black medic (<i>Medicago lupulina</i>) 4.0%, bulbous buttercup (<i>Ranunculus bulbosus</i>) 0.5%, catsear (<i>Hypochaeris radicata</i>) 2.0%, common knapweed (<i>Centaurea nigra</i>) 1.0%, common mouse ear (<i>Cerastium fontanum</i>) 0.5%, cowslip (<i>Primula veris</i>) 0.1%, selfheal (<i>Prunella vulgaris</i>) 2.0%, eyebright (<i>Euphrasia officinalis</i>) 0.3%, fairy flax (<i>Linum catharticum</i>) 2.0%, goat's-beard (<i>Tragopogon pratensis</i>) 0.1%, kidney vetch (<i>Anthyllis vulneraria</i>) 0.5%, lesser trefoil (<i>Trifolium dubium</i>) 0.5%, meadow buttercup (<i>Ranunculus acris</i>) 8.0%, oxeye daisy (<i>Leucanthemum vulgare</i>) 2.0%, pale flax (<i>Linum bienne</i>) 1.0%, ribwort plantain (<i>Plantago lanceolata</i>) 8.0%, rough hawkbit (<i>Leontodon hispidus</i>) 1.5%, smooth hawkbeard (<i>Crepis capillaris</i>) 0.5%, wild red clover (<i>Trifolium pratense</i>) 3.0%, and yellow rattle (<i>Rhinanthus minor</i>) 5.0%.</p> <p>Grasses (Total 55.5%): Cocksfoot (<i>Dactylis glomerata</i>) 3.0%, common bent (<i>Agrostis capillaris</i>) 1.0%, crested dog's-tail (<i>Cynosurus cristatus</i>) 10.0%, glaucous sedge (<i>Carex flacca</i>) 8.0%, perennial ryegrass (<i>Lolium perenne</i>) 2.0%, quaking grass (<i>Briza media</i>) 2.0%, red fescue (<i>Festuca rubra</i>) 8.0%, sweet vernal-grass (<i>Anthoxanthum odoratum</i>) 12.0%, upright brome (<i>Bromopsis erecta</i>) 10.0%, and Yorkshire fog (<i>Holcus lanatus</i>) 0.5%.</p>

7.2 **Operational Phase**

Management	Reason for and Frequency of schedule	Yearly Management										
Control of Aggressive Weeds	Any weeds which grow on site and are thought to be aggressive and pose a threat to the success of the planted trees should be eradicated. Plant ID survey undertaken twice yearly	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
		plant ID survey: March	plant ID survey: March	plant ID survey: March	plant ID survey: March	plant ID survey: March	plant ID survey: March	plant ID survey: March	plant ID survey: March	plant ID survey: March	plant ID survey: March	plant ID survey: March
		plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July
		Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Trees	To maximise biodiversity. Beneficial to local fauna.	Year 1- Plant recommended species. Leave to mature.	Year 2- No action.	Year 3- No action.	Year 4- No action.	Year 5- No action.	Year 6- No action.	Year 7- No action.	Year 8- No action.	Year 9- No action.	Year 10- No action.	
		Year 11- No action.	Year 12- No action.	Year 13- No action.	Year 14- No action.	Year 15- No action.	Year 16- No action.	Year 17- No action.	Year 18- No action.	Year 19- No action.	Year 20- No action.	
		Year 21- No action.	Year 22- No action.	Year 23- No action.	Year 24- No action.	Year 25- No action.	Year 26- No action.	Year 27- No action.	Year 28- Prune to extend life of tree. Prune no more than 25%.	Year 29- Prune to extend life of tree. Prune no more than 25%.	Year 20- Prune to extend life of tree. Prune no more than 25%.	
		Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Wildflower Planting	To maximise biodiversity. Beneficial to invertebrates	Year 1- Sow May to September	Year 2 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 3 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 4 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 5 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 6 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 7 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 8 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 9 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 10 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	
		Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
		Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.
		Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30	
	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.		

7.3 Post-works - Habitat Condition Monitoring Timetable

Post-Monitoring Type	Colour
Progression Check	Yellow
Assessing if habitat has met target condition	Red
Monitoring if Target condition is retained	Green

Habitat	Year														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
New scattered trees	Yellow														
Wildflower Planting	Yellow	Yellow	Yellow	Yellow	Red	Green									
Habitat	Year														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
New scattered trees	Yellow	Red	Green	Green	Green										
Wildflower Planting	Green														

Species-specific Enhancement	Year				
	1	2	3	4	5
Bat Boxes	No action.	Ascertaining whether the enhancement is in use, and whether the condition is still appropriate.	No action.	No action.	Ascertaining whether the enhancement is in use, and whether the condition is still appropriate.
Bird Boxes	No action.	Ascertaining whether the enhancement is in use, and whether the condition is still appropriate.	No action.	No action.	Ascertaining whether the enhancement is in use, and whether the condition is still appropriate.
Bee Bricks	No action.	Ascertaining whether the enhancement is in use, and whether the condition is still appropriate.	No action.	No action.	Ascertaining whether the enhancement is in use, and whether the condition is still appropriate.
Hedgehog Boxes	No action.	Ascertaining whether the enhancement is in use, and whether the condition is still appropriate.	No action.	No action.	Ascertaining whether the enhancement is in use, and whether the condition is still appropriate.

8. Good Practice Principles for Development

The table below outlines the ten principles as outlined by the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Institute of Sustainability and Environmental Professionals (ISEP) whilst outlining whether the project meets each principle, and a justification as to why this has or has not occurred.

Principle	Definition as set out by CIEEMA and ISEP	Principle met?	Justification
Principle 1: Apply the Mitigation Hierarchy	Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision-makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.	No	Some species-specific surveys are yet to be undertaken on site. In addition, a measurable net gain for area habitats has not been achieved. As such, this principle has not been met.
Principle 2: Avoid Losing Biodiversity that Cannot be Offset by Gains Elsewhere	Avoid impacts on irreplaceable biodiversity - these impacts cannot be offset to achieve no net loss or net gain.	Yes	No irreplaceable habitats occur on site. The habitats on site are common and of varying quality. This report has offered recommendations for habitats of a higher standard.
Principle 3: Be Inclusive and Equitable	Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to net gain. Achieve net gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.	Yes	Feedback from the stakeholders is welcome and this document is to be updated to fit requirements. This Biodiversity Net Gain Report has included recommendations to benefit the site while allowing it to be used for its intended purpose.
Principle 4: Address Risks	Mitigate difficulty, uncertainty and other risks to achieving net gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.	Yes	Post monitoring and a management scheme has been recommended to ensure habitats meet the target conditions.
Principle 5: Make a Measurable Net Gain Contribution	Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.	No	The net unit change for the habitats on site is calculated at - 2.39 , which correlates to a gain of -67.92% in habitat biodiversity. The net unit change for the hedgerows site is calculated at +0.24 , a percentage increase which cannot be calculated against a baseline of 0.00 units. The net unit change for the watercourses is calculated at +0.00 , which correlates to neither a net gain nor a net loss in watercourse biodiversity. A measurable net gain for area habitats has not been achieved. This principle has not been met.
Principle 6: Achieve the Best Outcomes for Biodiversity	Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly-justified choices when: <ul style="list-style-type: none"> ➤ Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses. ➤ Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation. ➤ Achieving net gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels. ➤ Enhancing existing or creating new habitat. 	No	The net unit change for the habitats on site is calculated at - 2.39 , which correlates to a gain of -67.92% in habitat biodiversity. The net unit change for the hedgerows site is calculated at +0.24 , a percentage increase which cannot be calculated against a baseline of 0.00 units. The net unit change for the watercourses is calculated at +0.00 , which correlates to neither a net gain nor a net loss in watercourse biodiversity.

Biodiversity Net Gain Report

	<ul style="list-style-type: none"> ➤ Enhancing ecological connectivity by creating more bigger, better and joined areas for biodiversity. 		A measurable net gain for area habitats has not been achieved. This principle has not been met.
Principle 7: Be Additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).	No	A measurable net gain has not been achieved, and the trading rules have not been satisfied. This principle has not been met.
Principle 8: Create a Net Gain Legacy	<p>Ensure net gain generates long-term benefits by:</p> <ul style="list-style-type: none"> ➤ Engaging stakeholders and jointly agreeing practical solutions that secure net gain in perpetuity. ➤ Planning for adaptive management and securing dedicated funding for long-term management. ➤ Designing net gain for biodiversity to be resilient to external factors, especially climate change. ➤ Mitigating risks from other land uses. ➤ Avoiding displacing harmful activities from one location to another. ➤ Supporting local-level management of net gain activities. 	No	A measurable net gain has not been achieved, and the trading rules have not been satisfied. This principle has not been met.
Principle 9: Optimise Sustainability	Prioritise biodiversity net gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.	No	No wider environmental benefits or sustainability measures.
Principle 10: Be Transparent	Communicate all net gain activities in a transparent and timely manner, sharing the learning with all stakeholders	Yes	Feedback from the stakeholders is welcome and this document is to be updated to fit requirements. This Biodiversity Net Gain Report has included recommendations to benefit the site while allowing it to be used for its intended purpose.

9. References

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10. Appendices

Appendix A: Site Plans

Appendix B: Habitat Condition Assessment Sheets

Appendix C: Baseline Habitat Map

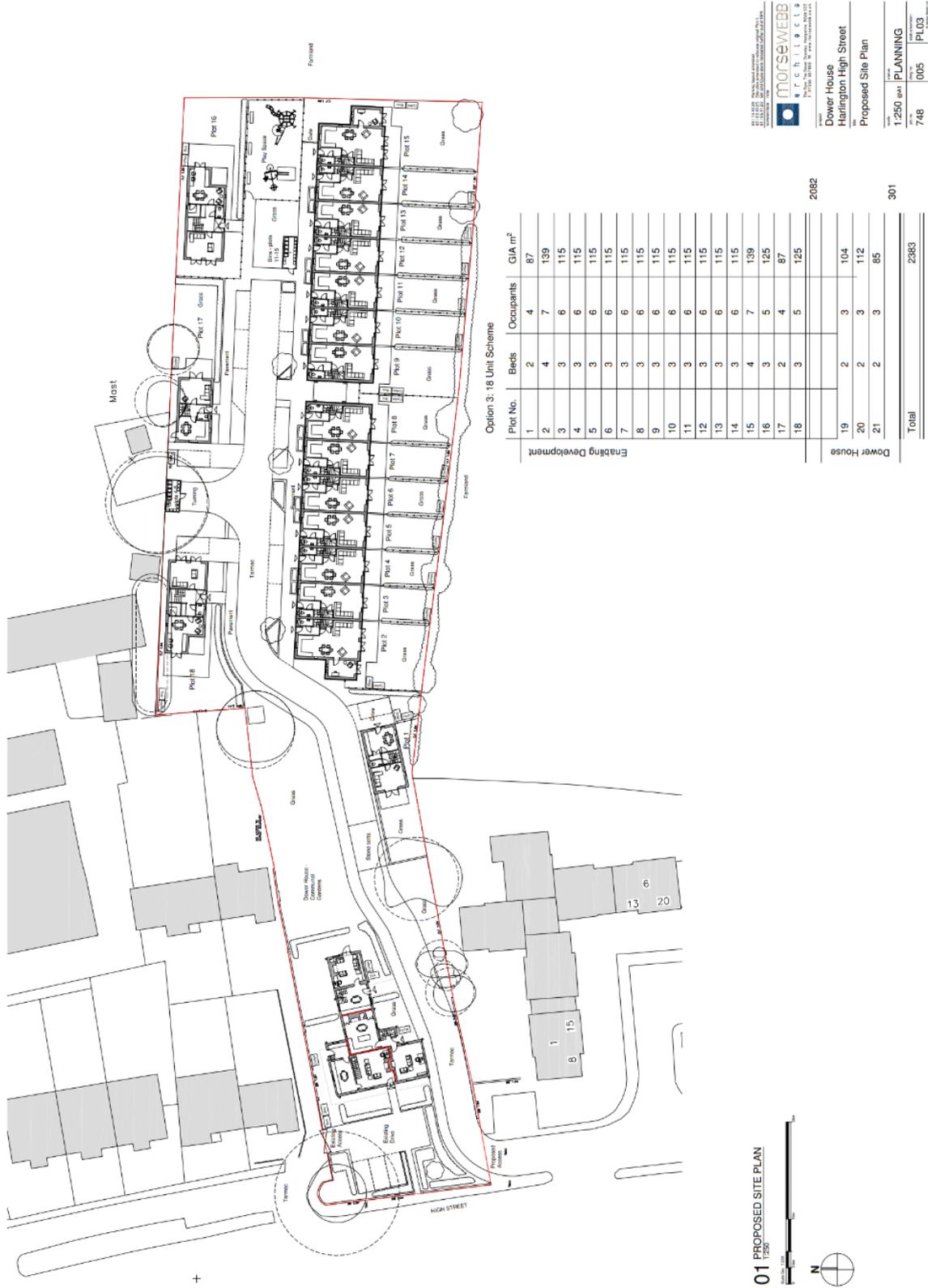
Appendix D: New Habitat Maps

Appendix E: Site Photographs

Appendix F: Biodiversity Net Gain Relevant Policies

Appendix G: Bat and Artificial Light

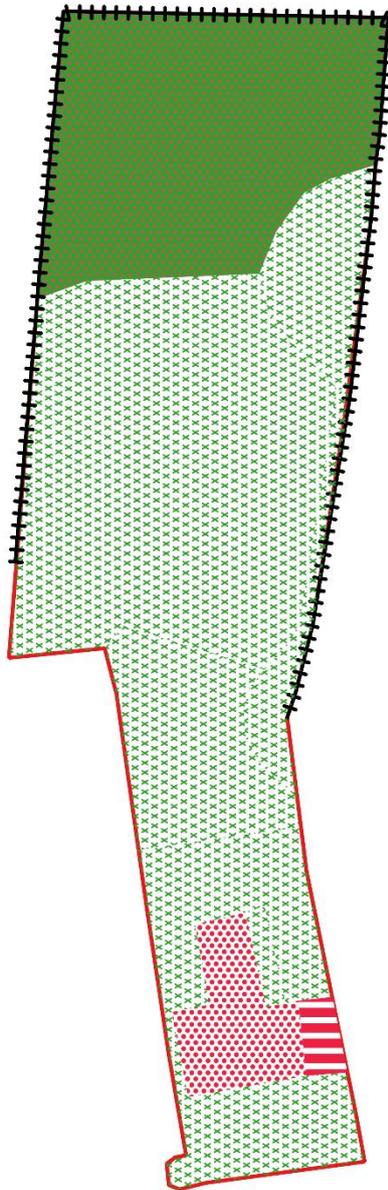
Appendix A: Site Plans



Appendix B: Habitat Condition Assessment Sheets

Appendix C: Baseline Habitat Map

 <p>Elite Ecology Passionate about Ecology</p> <p>01752 208118 Part of Harm Environmental Ltd Company No: 10592525 Company VAT Number: 82659225</p> <p>el@eliteecology.co.uk www.eliteecology.co.uk The Wood Barn, Selsby, 2/2, Selsby Lane, Garswath, Cleethorpe, CW12 2TQ</p>	<p>Dower House, Harlington</p> <p>Client Mr. Michael Edwards (Komfort Services)</p> <p>Map title JKHAB Habitat Map</p> <p>Date 11/11/2025</p> <p>Legend</p> <ul style="list-style-type: none">u1b5 - Buildingsu1b - Developed land; sealed surfaceu1e 612 - Built linear featuresw1g - Other broadleaved woodlandw1g 206 - Felled woodlandSite boundary <p>Scale: 950@A3</p> <p>0 10 20 m</p>
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Appendix D: New Habitat Map

 <p>Elite Ecology Passionate about Ecology</p> <p>01782 308118 admin@eliteecology.co.uk www.eliteecology.co.uk</p> <p>The Wood Farm, Selsley, 225, Selsley Lane, Lewinsworth, Cirencester, CV12 2JQ</p>	
<p>Dower House, Harlington</p>	
<p>Client: Mr. Michael Edwards (Komfort Services)</p>	
<p>Map title: JKHAB Habitat Map</p>	
<p>Date: 11/11/2025</p>	
<p>Legend</p> <ul style="list-style-type: none">  32 - Scattered trees  g3c - Other neutral grassland  h2b - Nonnative and ornamental hedgerow  u1 828 - Vegetated garden  u1b - Developed land; sealed surface  u1b5 - Buildings  u1e 612 - Built linear features  Bat box  Bird box  Bug box  Hedgehog box  Hedgehog highway  Site boundary 	
<p>This map has been based on the drawing entitled "748-005-PL03".</p>	
<p>Scale: 950@A3</p> <p>0 10 20 m</p> 	



Appendix E: Site Photographs

Plate 1: Image showing the building on site.



Plate 2: Image showing the hard standing ground on site.

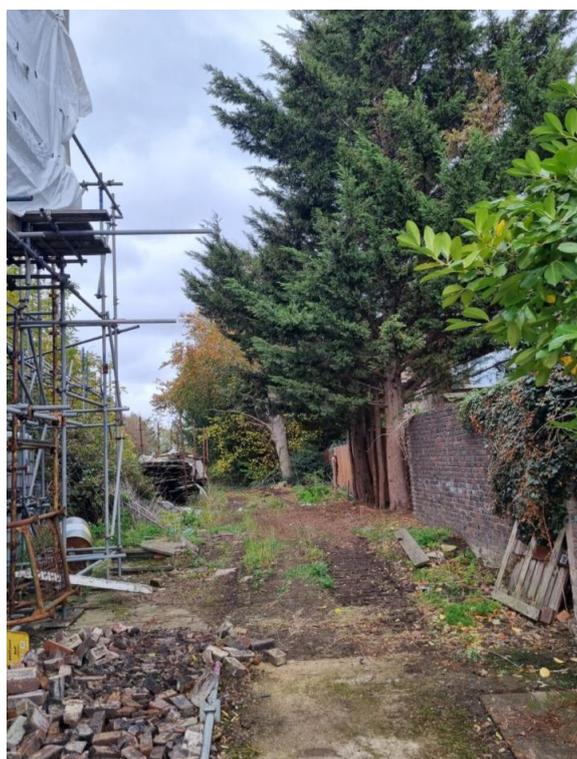


Plate 3: Image showing the other broadleaved woodland on site.



Plate 6: An image showing some of the felled woodland on site.



Appendix F: Biodiversity Net Gain Relevant Policies

Environmental Act 2021

Part 6 on nature and biodiversity covers all areas of biodiversity net gain across two core sections. This Act mandates that all planning meets a minimum of a 10% gain in biodiversity calculated using the appropriate Metric and that the newly created habitats are secured for at least 30 years.

National Planning Policy Framework (NPPF)

While currently not a legal obligation, biodiversity and environmental net gains are mentioned in the revised National Planning Policy Framework (NPPF) within the following paragraphs (please refer to the NPPF for the full quotations):

Achieving sustainable development

Paragraph 8 Section C. *“an environmental objective – **to protect and enhance our natural, built and historic environment**; including making effective use of land, **improving biodiversity**, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”*

Preparing and reviewing plans

Paragraph 33. *“Local plans and spatial development strategies should be informed throughout their preparation by a sustainability appraisal that meets the relevant legal requirements. This **should demonstrate how the plan has addressed relevant economic, social and environmental objectives (including opportunities for net gains)**. Significant **adverse impacts on these objectives should be avoided** and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered).”*

Identifying land for homes

Paragraph 77 section A. *“consider the opportunities presented by existing or planned investment in infrastructure, the area’s economic potential and the scope for **net environmental gains**”*

Promoting sustainable transport:

Paragraph 109 section F. *“identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure – including appropriate opportunities for avoiding and mitigating any adverse effects, and for **net environmental gains**.”*

Making effective use of land:

Paragraph 125 section A. *“encourage multiple benefits from both urban and rural land, including through mixed use schemes and taking opportunities to achieve **net environmental gains** – such as developments that would enable new habitat creation or improve public access to the countryside.”*

Conserving and enhancing the natural environment

Paragraph 187 Section D. “*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs*”

Habitats and biodiversity

Paragraph 192. “*To protect and enhance biodiversity and geodiversity, plans should:*

*a) Identify, map and **safeguard components of local wildlife-rich habitats** and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, **enhancement, restoration or creation;***

*and b) promote **the conservation, restoration and enhancement of priority habitats,** ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing **measurable net gains for biodiversity.**”*

Paragraph 1893. “*When determining planning applications, local planning authorities should apply the following principles:*

*a) if **significant harm to biodiversity** resulting from a development **cannot be avoided** (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then **planning permission should be refused;***

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

*c) development resulting in the **loss or deterioration of irreplaceable habitats** (such as ancient woodland and ancient or veteran trees) **should be refused,** unless there are wholly exceptional reasons and a suitable compensation strategy exists;*

*and d) development **whose primary objective is to conserve or enhance biodiversity should be supported;** while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can **secure measurable net gains for biodiversity** or enhance public access to nature where this is appropriate.”*

Local Plan

London Borough of Hillingdon Local Plan

Policy EM7: Biodiversity and Geological Conservation

The Council will review all the Borough grade Sites of Importance for Nature Conservation (SINCs). Deletions, amendments and new designations will be made where appropriate within the Hillingdon Local Plan: Part 2 -Site Specific Allocations Local Development Document. These designations will be based on previous recommendations made in discussions with the Greater London Authority. Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:

1. The conservation and enhancement of the natural state of:
 - Harefield Gravel Pits
 - Colne Valley Regional Park
 - Fray's Farm Meadows
 - Harefield Pit
2. The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.
3. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.
4. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/assist in the delivery of actions within the Biodiversity Action Plan.
5. The provision of biodiversity improvements from all development, where feasible.
6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.
7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.

Appendix G: Bats and Artificial Light

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotis bats (*Myotis* spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

Current recommendations for all bat species specifies that no bat roost should be directly illuminated.

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

➤ To introduce lighting curfews or use of PIR sensors.

Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

➤ To consider no lighting solutions where possible.

Options such as white lining, good signage and LED cats eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

➤ To use only high pressure sodium or warm white LED lamps where possible.

High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

➤ To minimise the spread of light.

The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

➤ To consider the height of the lighting column.

While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

➤ To avoid reflective surfaces below lights.

The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

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No reliance should be made on any such comments in relation to the structural integrity of the features located on the surveyed site. All information within the report is based solely on evidence that has been found on site during the service provided. No individual opinion or inference will be made other than that of the suitably qualified ecologist appointed to the project.